
वस्त्रादि — महिलाओं के लिए बुनी हुई
कार्डिगन — विशिष्टि

(दूसरा पुनरीक्षण)

Textiles — Women's Cardigan,
Knitted — Specification

(Second Revision)

ICS 59.080.30; 61.020

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FOREWORD

This Indian Standard (Second Revision) was adopted by the Bureau of Indian Standards after the draft finalized by the Hosiery Sectional Committee had been approved by the Textiles Division Council.

This standard was originally published in 1968 and subsequently revised in 1992. The present revision has been made in the light of experience gained since its last revision and to incorporate the following major changes:

- a) Requirement for fineness of wool for woollen cardigan has been specified;
- b) Requirement and test method for fibre composition have been updated;
- c) References to Indian standards have been updated; and
- d) BIS Certification and Marking clause have been modified.

The composition of the Committee responsible for the formulation of this standard is given in Annex C.

For the purpose of deciding whether a particular requirement of this standard is complied with the final value, observed or calculated, expressing the result of a test or analysis shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places.

Indian Standard

TEXTILES — WOMEN'S CARDIGAN, KNITTED — SPECIFICATION

(*Second Revision*)

1 SCOPE

1.1 This standard prescribes the constructional particulars and other requirements of women's knitted cardigan manufactured by machine knitting, using hosiery yarn, which are bleached, dyed or in mixture shades.

1.2 The standard does not prescribe the subjective characteristics like design, colour combination, type of finish, general appearance and feel of cardigan.

2 REFERENCES

The standards given in Annex A contain provisions which, through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards.

3 TERMINOLOGY

For the purpose of this standard, the definition given in IS 3596 and SP 45 shall apply.

4 MANUFACTURE

4.1 Class of Cardigan

The cardigan shall be of any one of the three classes, depending upon the quality of the fibrous material used in its yarn (out of which the cardigan is manufactured). The following are the classes of cardigan:

- a) Woollen cardigan;
- b) Acrylic cardigan; and
- c) Blended cardigan.

4.1.1 The woollen cardigan shall be further designated in three categories as indicated below depending upon the quality grades of virgin wool tops (*see* Note 2 under **4.2.1**) out of which this is manufactured:

- a) Superfine — Above 70^s
- b) Fine — Above 60^s and up to 70^s
- c) Medium — Above 56^s and up to 60^s

4.1.2 The acrylic cardigan shall be manufactured from 100 percent acrylic yarn spun from acrylic tops on worsted system. The acrylic tops shall not contain acrylic

fibres obtained from waste or re-manufactured acrylic material.

4.1.3 The blended cardigan shall be manufactured from yarn spun from the blends of wool with acrylic fibres and/or polyester fibres (or) viscose rayon and/or polyamide (nylon) fibres as given in **4.2.1**.

4.2 Yarn

The hosiery yarn used for knitting the cardigan and its components like welt (or tape), cuff and border shall be evenly spun from quality fibre tops in soft twist and shall possess good covering properties, spun on the worsted system (*see also* **4.3.1** and **4.3.2**).

4.2.1 The hosiery spun yarn shall be 100 percent virgin wool (*see* Note 2), or 100 percent acrylic fibres, or blends of wool with acrylic fibres and/or polyester fibres (or) viscose rayon and polyamide (nylon) fibres (*see also* IS 7026 and IS 7747). In the blends, the virgin wool content shall not be less than 70 percent and that of viscose rayon, wherever viscose rayon is used, shall not be more than 15 percent. The wool tops of quality not lower than 56s top shall be used for the manufacture of hosiery yarn. The blend proportions shall be such that it shall not exceed more than three fibre components (*see* Notes).

NOTES

1 Additionally, animal hair fibres 100 percent or along with virgin wool blends as per **4.2.1** may also be used if agreed to between the buyer and the seller. These present in the yarn may be identified as per the method given in IS 667 (to be read along with supplement).

2 For information, identification of virgin wool may be made by microscopical examination of the scales on the wool fibre which are comparatively less damaged as compared with shoddy wool or waste, etc. Also, it may be noted that the hairiness, and thereby pilling, in the fabrics are more pronounced when other wools are used.

4.3 Fabric

The fabric used in the manufacture of cardigan shall be evenly knitted by machine knitting. If desired by the buyer, the cardigan may also be knitted in such a manner with its sleeves, neck and armhole openings be shaped (fashioned) by increasing or decreasing the number of wales by fashioning or full fashioning. The hosiery yarn used (or the fabric) shall be bleached or dyed to the required shade or knitted with yarn of mixture shades as agreed to between the buyer and the seller.

4.3.1 Moth Proofing — The yarn or fabric used in the manufacture of cardigan and their components before seaming may be treated with suitable moth proofing agents, if agreed to between the buyer and the seller.

4.3.2 Shrink-proof — The tops of yarn or fabric used in the manufacture of cardigan may also be treated with a suitable shrink-resistance process, if agreed to between the buyer and the seller.

4.4 Seams and Stitches

All joining shall be stitched with three-thread overlock stitches or by linking or by covering stitches (*see also* IS 10789 and IS 11161).

4.4.1 It is recommended that for all stitches, one strand of sewing thread conforming to any one of the appropriate varieties specified in IS 1720 or IS 9543 or sewing threads of best quality, shall be used in the needle and two strands of sewing threads as above or of the same type as used for knitting the cardigan, shall be used in the loopers.

4.4.2 In case of single colour cardigan all threads used for stitching or linking shall be of the same colour as that of the body of the cardigan; and in case of multicolour cardigan they shall be of the major or ground colour.

4.4.3 The number of stitches shall not be less than 4 per cm.

4.5 Cardigan

The shape of the cardigan shall be round neck (*see* Fig. 1) with buttons at the front openings—this may be finished with welts or tape or collar (*see* Fig. 1A) or one centimetre folding (*see* Fig. 1B) (or) V type open neck (*see* Fig. 2) —with at least three buttons at the front opening. The wales shall preferably run along the length of cardigan. The cardigan shall be of any one of the three types mentioned below:

- a) S.S.W - Short length for short size woman (SSW);
- b) M.S.W - Medium length for medium size women (MSW); and
- c) O.S.W - Large size cardigan for large/tall (over-size) (OSW).

NOTE — The cardigan may also be tailored with pocket (s) at equidistant and/or collar of the shape and size as agreed to between the buyer and the seller.

4.5.1 The shape of the sleeves may be “Ordinary Type” (*see* Fig. 1) or “Reglan Type” (*see* Fig. 1), as agreed to between the buyer and the seller. If agreed to between the buyer and the seller, the cardigan shall be made of one piece with cuff at sleeves and border at the bottom. The welt at different opening shall be attached to the cardigan by stitching or linking, in case of buttoned cardigan. The cardigan may also be manufactured with welt attached at cuffs at sleeves and border.

4.5.2 Welt (or Tape)

As agreed to between the buyer and the seller, the welt meant for stitching or linking at the neck shall be rib knitted such as 1×1 , 2×2 , etc, or trimmed out of the fabric as use for fabricating the cardigan.

4.5.2.1 The width, of the welt shall be at least 20 mm for the front opening in case these are buttoned cardigan. In case of collared cardigan the collar width shall be at least 40 mm.

4.5.2.2 The welt shall be securely stitched or linked to the cardigan. The seams shall appear on the inside of the cardigan.

4.5.3 Border

The border at the bottom of cardigan and at the cuffs at sleeves may be preferably knitted along with the cardigan or sleeves in 1×1 rib or 2×2 rib knitted fabric, so as to have more elasticity than the body of knitted cardigan and sleeves. If the border is knitted separately it may be stitched or linked in such a way that the seams appear at the inside of the cardigan. The projecting ends of the seams, if any, may be flattened by over seaming or seam covering stitches.

4.5.4 Reinforcements

The seam joining the body and the border, cuffs or sleeves or at the shoulder and other places shall be reinforced suitably at the inside, preferably by seam covering.

4.5.4.1 The ‘round’ or tubular edges of the rib welts intended for reinforcement shall be formed by knitting three or four courses.

4.5.5 All stitches shall be of even tension throughout with all the loose ends securely fastened. Stitching shall not give way when the cardigan is stretched to one and a half times.

4.5.6 The front opening of the cardigan may be attached with matching buttons with appropriate button-holes or slide fastness or by any other suitable way, so as to close the front opening of the cardigan while in use.

4.5.7 Freedom from Defects

The cardigan shall be free from grease, soap, filling or any other extraneous material. It shall be reasonably free from manufacturing and tailoring defects such as large mends, ladders, dropped stitches, improper reinforcement, missed stitches and badly sewn slide fasteners or badly fixed fasteners for front opening. It shall be also free from stains, chemical damages and dyeing defects like uneven dyeing, streakiness, etc. The fabric used shall not be over boarded.

5 REQUIREMENTS

5.1 The dimensions of the cardigan shall conform to the requirements specified in Table 1 when read with Fig. 1.

Table 1 Dimensions of Cardigan

(Clauses 5.1 and B -1)

(All dimensions in centimetres)

Sl No.	Size	Width Across Chest (A)	Length of Cardigan (B)			Length of Sleeves (see Notes) (C)	Width of Opening at Armhole (see Note 2) (D)
			SSW	MSW	OSW		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
i)	75	38.5	53.5	53.0	56.0	48.5	19.0
ii)	80	41.0	56.5	55.0	60.0	53.5	20.0
iii)	85	43.5	58.5	59.0	62.0	56.5	21.0
iv)	90	46.0	61.5	61.0	64.0	59.5	23.0
v)	95	48.5	63.5	63.0	66.0	59.5	24.0
vi)	100	51.0	66.5	66.0	68.0	61.5	25.0
vii)	105	52.5	66.5	66.0	70.0	62.0	26.0
viii)	110	55.0	66.5	67.0	70.0	63.0	26.0
Tolerance	-	± 1.5	← 2.0 →			± 2.0 -1.0	± 2.0

Method of Test

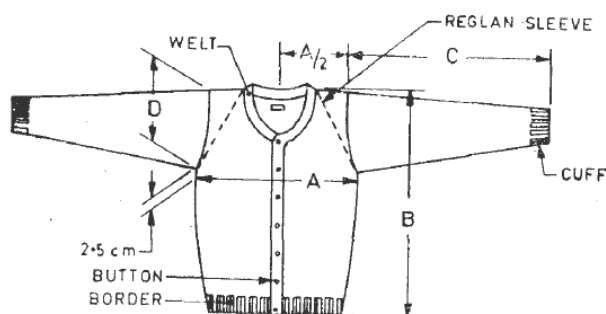
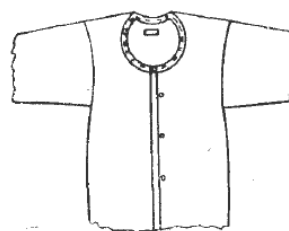
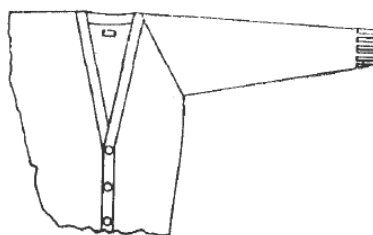
See B-1

NOTES

1 Values highlighted in 'B' are most commonly followed.

2 In case of cardigan with "Reglan" sleeves the dimensions shall be $(C + A/2)$.

3 The dimensions at C and D may be varied subject to agreement between the buyer and the seller, subjected to the tolerances specified on the agreed values. However, the dimensions so agreed shall not be less than those specified above.

**FIG. 1 TYPICAL ROUND NECK CARDIGAN****FIG 1A CARDIGAN WITH COLLAR****FIG. 1B CARDIGAN WITH FOLDING****FIG. 1 OPEN NECK CARDIGAN**

5.1.1 The other dimensions of the cardigan as indicated in Fig. 1 shall be as agreed to between the buyer and the seller. The minimum mass of cardigans for each size may be as agreed to between the buyer and the seller.

NOTE — The size of the cardigan is denoted by a number which is the approximate value of the chest girth in cm.

Example

An 80 size cardigan represents a cardigan with a chest girth of approximately 80 cm at A (*see* Fig. 1).

5.2 The cardigan shall conform to the requirements as specified in Table 2.

6 MARKING

6.1 A cloth label of suitable size shall be securely attached to each cardigan on the inside of the neck

portion (back-side) on which shall be indicated the following:

- a) Name of manufacture or trade mark;
- b) Batch/lot no and date of manufacture;
- c) Size;
- d) Class of cardigan (*see* 4.1);
- e) Designation for woollen cardigan only (*see* 4.1.1);
- f) Fibre/blend composition (*see* 4.1.1, 4.1.2 and 4.1.3);
- g) Type of cardigan (*see* 4.5);
- h) Care labelling (*see* IS 14452)
- i) Country of manufacture; and
- j) Any other information required by the buyer or law in force.

Table 2 Requirements of Cardigan
(Clause 5.2, 8.3 and B-2.2)

Sl No.	Characteristics	Requirements	Method of Test
(1)	(2)	(3)	(4)
i)	Construction		B-2
	a) Wales (per 5 cm)	As agreed between the buyer and the seller with a tolerance of ± 2	
	b) Courses (per 5 cm)		
ii)	Dimensional change (due to relaxation) percent, <i>Max</i>	± 5	IS 1313
iii)	Scouring loss, percent <i>Max</i>	5	B-3
iv)	Alkali, solubility, percent, <i>Max</i> (not applicable for 100 percent acrylic)		IS 3429
	a) Bleached	25	
	b) Dyed/mixed shade	20	
v)	pH value of aqueous extract		IS 1390
	a) All wool		
	i) Bleached and stoved shaded	4.0 to 7.5	
	ii) Other shades	6.0 to 7.5	
	b) Acrylic or blended	5.0 to 7.5	
vi)	Minimum colour fastness rating		
	a) Light	4	IS/ISO 105-B02
	b) Washing: Test A(1)		IS/ISO 105 C-10
	i) Change in colour	3	
	ii) Staining of adjacent fabric	3	
	c) Rubbing (dry and wet)	3	IS/ISO 105 X-12
	d) Dry-cleaning	4	IS/ISO 105-D01
vii)	Fibre composition, percent	As agreed between the buyer and seller, with a tolerance of ± 2 percent units in case of blends, No tolerance for single fibre	IS 11195 or IS 667
viii)	Fineness grade of wool (woollen cardigan)		IS 5911
	a) Superfine	Above 70 ^s	
	b) Fine	Above 60 ^s and up to 70 ^s	
	c) Medium	Above 56 ^s and up to 60 ^s	

6.2 BIS Certification Marking

The product(s) conforming to the requirements of this standard may be certified as per the conformity assessment schemes under the provisions of the *Bureau of Indian Standards Act, 2016* and the Rules and Regulations framed thereunder, and the products may be marked with the Standard Mark.

7 PACKING

The cardigans shall be packed properly (*see* IS 3353 or IS 2518).

8 SEALED SAMPLE

8.1 If, in order to illustrate or specify the design, colour combination, type of finish, general appearance, feel, etc, of the cardigan, a sample has been agreed upon and sealed, the supply shall be in conformity with the sample in such respects.

8.2 The custody of the sealed sample shall be a matter of prior agreement between the buyer and the seller.

8.3 The quality characteristics, namely, number of wales and courses per 5 cm and the mass of ten cardigans in kg, shall be in conformity with the sealed sample subjected to the tolerances as specified at SI No. 1 of Table 2 and ± 2.5 percent on mass.

9 SAMPLING

9.1 Lot

In any consignment, all the cardigans of the same size, and manufactured from the same quality of yarn shall constitute a lot.

9.1.1 Conformity of the lot to the requirements of this specification shall be determined on the basis of tests conducted on the samples selected from the lot.

9.2 Unless otherwise agreed upon between the buyer and the seller, a certain number of cardigans depending upon the lot shall be selected at random from the lot to constitute the gross sample, the number of such cardigans shall be in accordance with column 3 of Table 3.

9.3 For the purpose of examining the requirements in respect of:

- a) general requirements;
- b) the number of wales and courses per 5 cm; and
- c) dimensions of cardigans and such other requirements as might have been specified through sealed sample (**8.2** and **8.3**), the cardigans drawn

in accordance with column 3 of Table 3 shall constitute the gross sample.

9.3.1 If agreed by the buyer, for the determination of mass, a group of 10 cardigans in the gross sample shall constitute a test specimen and for the purpose of remaining requirements enumerated in **9.3**, each cardigan in the gross sample shall constitute a test specimen.

9.4 For determining:

- a) dimensional change,
- b) pH value,
- c) scouring loss,
- d) colour fastness,
- e) alkali solubility,
- f) fibre composition, and
- g) fineness grade of wool, the reduced sample drawn in accordance with column 5 of Table 3, obtained by selecting cardigans at random from those in the gross sample shall constitute the test sample.

9.5 Criteria for Conformity

A lot shall be considered as conforming to this standard if:

- a) in respect of:
 - 1) general requirements,
 - 2) the number of wales and courses per 5 cm, and
 - 3) dimensions of cardigans and such other requirements as might have been specified through sealed sample (**8.2** and **8.3**), the number of cardigans failing to satisfy any one of these requirements does not exceed the applicable number specified in column 4 of Table 3.
- b) From the observed values of dimensional change, scouring loss the average X and the range R are calculated and the value of the expression $X + 0.5 R$ is found to be less than or equal to the specified value.
- c) From the observed pH values, the average X and the range R are calculated, and the values of the expression $X - 0.5 R$ and $X + 0.5 R$ lie within the specified values.

NOTES

1 The average X is obtained by dividing the sum of all the observed values by the number of samples tested.

2 The range R is the difference between the maximum and the minimum of the observed values.

- d) None of the test specimens tested for colour fastness and blend composition fails to satisfy the requirements.

Table 3 Sample Size and Criteria for Conformity
(Clauses 9.2, 9.3, 9.4 and 9.5)

Sl No.	No. of Cardigans	Sample Size		Sub-Sample Size
		No. of Cardigans to be Selected	Permissible no. of Non-confirming Cardigans	No. of Cardigans to be Selected
(1)	(2)	(3)	(4)	(5)
i)	Up to 50	10	0	3
ii)	51-100	20	1	3
iii)	101-200	30	2	3
iv)	201-300	40	3	3
v)	301-500	50	3	4
vi)	501-800	70	4	4
vii)	801-1300	110	6	5
viii)	1301-3200	150	8	7
ix)	3201 and above	220	11	7

ANNEX A

(Clause 2)

LIST OF REFERRED INDIAN STANDARDS

<i>IS No. /Other Publication</i>	<i>Title</i>	<i>IS No. /Other Publication</i>	<i>Title</i>
SP 45 : 1988	Handbook on glossary of textile terms	10789 : 2000/ ISO 4915 : 1991	Textiles — Stitch Type — Classification and terminology (<i>first revision</i>)
667 : 1981	Methods for identification of textile fibres (<i>first revision</i>)	11161 : 2000/ ISO 4916 : 1991	Textiles — Seam types — Classification and terminology (<i>first revision</i>)
1313 : 1984	Methods for determination of dimensional changes on washing of knitted goods containing wool (<i>first revision</i>)	11195 : 1985	Specification for blend compositions of textiles
1390 : 2019/ ISO 3071 : 2005	Textiles — Determination of pH of aqueous extract (<i>second revision</i>)	14452 : 2014/ ISO 3758 : 2012	Textiles — Care labelling code using symbols (<i>second revision</i>)
1720 : 1978	Specification for cotton sewing threads (<i>first revision</i>)	IS/ISO 105-B02 : 2014	Textiles — Tests for colour fastness: Part B02 Colour fastness to artificial light: Xenon arc fading lamp test
2518 : 1964	Code for worthy packaging of wool hosiery yarn and goods	IS/ISO 105-C10 : 2006	Textiles — Tests for colour fastness: Part C10 Colour fastness to washing with soap or soap and soda
3353 : 1966	Code for inland packing of wool hosiery yarn and goods	IS/ISO 105-D01 : 2010	Textiles — Tests for colour fastness: Part D01 Colour fastness to drycleaning using perchloroethylene solvent
3429 : 1966	Method for determination of solubility of wool in alkali	IS/ISO 105 – E 04 : 2008	Textiles — Tests for colour fastness: Part E04 Colour fastness to perspiration
3596 : 1967	Glossary of term relating to hosiery	IS/ISO 105-X12 : 2016	Textiles — Tests for colour Fastness: Part X12 Colour fastness to rubbing (<i>first revision</i>)
5911: 1977	Fineness grades of wool tops (<i>first revision</i>)		
7026 : 1973	Specification for hosiery yarn, worsted		
7747 : 1993	Textiles — Hand - knitting wool yarn, worsted — Specification (<i>first revision</i>)		
9543 : 2015	Textiles — Spun polyester sewing threads — Specification (<i>first revision</i>)		

ANNEX B

(Clauses 5.1 and 5.2, Table 1 and Table 2)

B-1 METHOD FOR MEASURING DIMENSIONS**B-1.1 Procedure**

Take a cardigan constituting the test specimens. Lay it flat on a horizontal surface. Remove all creases and wrinkles without distorting the specimen. Measure correct to the nearest 5 mm, the dimensions given in Table 1.

B-1.2 Take the cardigan to be in conformity with the requirements of Table 1 in respect of dimensions if none of the values as observed in **B-1.1** varies from the specified value by more than the specified tolerance.

B-1.3 Repeat the procedure with the remaining cardigans in the test specimens.

B-2 WALES AND COURSES**B-2.1 Procedure**

Take a cardigan constituting the test specimens. Lay it flat on a horizontal surface. Remove all creases and wrinkles without distorting it. On one side of the test specimen, count with the help of a pick glass or magnifying glass, the number of wales per 5 cm and courses per 5 cm of the fabric.

B-2.2 Take the cardigan conforming to the requirements of Table 2 in respect of wales and courses, if the values for the number of wales per 5 cm and the courses per 5 cm as determined in **B-2.1** do not vary from the specified value by more than the specified tolerances.

B-2.3 Repeat the procedure with the remaining cardigans in the test specimens.

B-3 METHOD FOR DETERMINING SCOURING LOSS**B-3.1 Test Specimen**

Take about 10 g of yarn from each sample. This shall constitute a test specimen.

B-3.2 Procedure

Dry the test specimen to constant mass in the drying oven at 105 ± 3 °C temperature and determine its mass accurately.

NOTE — Constant mass shall be deemed to have been reached if the difference between the two successive weighings at an interval of 20 min is less than 0.05 percent.

B-3.3 Extract the specimen with a mixture of benzene and methyl alcohol in the proportion of 3 : 2 in a Soxhlet apparatus for 4 h at the rate of 5 extractions per hour, taking care to place the specimen in a thimble and covering it with cotton wool previously extracted with petroleum hydrocarbon solvent (petroleum ether). Remove the specimen from the extract. Dry the residue to a constant mass (*see* Note under **B-3.2**) at 105 ± 3 °C and determine the mass accurately.

B-4 CALCULATION

Calculate the scouring loss by the following formula:

$$\text{Scouring loss, percent} = \frac{a}{b} \times 100$$

where

a = mass of the dry residue (*see* **B-3.3**), and

b = mass of the test specimen (*see* **B-3.1**).

ANNEX C

(Foreword)

COMMITTEE COMPOSITION

Hosiery Sectional Committee, TXD 10

<i>Organization</i>	<i>Representative(s)</i>
The South India Textile Research Association, Coimbatore	DR PRAKASH VASUDEVAN (Chairman) SHRI S. SOUNDERRAJ (<i>Alternate</i>)
Apparel Export Promotion Council, Tirupur	DR K. RAJENDRAKUMAR
Central Armed Police Forces (CAPF), New Delhi	SHRI D. N. LAL SHRI RANDHIR KR JHA (<i>Alternate</i>)
DKTE Society's Textile & Engg Institute, Ichalkaranji	DR UJAY J. PATIL SHRI ANIL U. AWASARE (<i>Alternate</i>)
Essa Garments, Tirupur	SHRI DURGADEVI
JKR Garments, Tirupur	SHRI JAILANI
Knitwear and Apparel Manufacturers Association, Ludhiana	SHRI SUDARSHAN KUMAR JAIN SHRI ARUN AGGARWAL (<i>Alternate</i>)
Ministry of Defence (DGQA), New Delhi	SHRI ARVIND KAMTHANE SHRI J. K. YADAV (<i>Alternate</i>)
Ministry of Defence (DMSRDE), Kanpur	SHRI ASHOK YADAV SHRI MILANT PANT (<i>Alternate</i>)
National Institute of Fashion Technology, New Delhi	SHRI ASHOK PRASAD MS AMRITA ROY (<i>Alternate</i>)
NIFT-TEA College of Knitwear Fashion, Tirupur	DR K. P. BALAKRISHNAN DR P. P. GOPALAKRISHNAN (<i>Alternate</i>)
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Office of The Textile Commissioner, Mumbai	SHRI HUMAYUN K. SHRI SATISH KUMAR N. (<i>Alternate</i>)
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SGS, Chennai	DR. KARTHIKEYAN K. SHRI MICHAEL FRANCIS (<i>Alternate</i>)
Textiles Committee, Tirupur	SHRI R. CHANDRAN SHRI J. PARAMESWARAN (<i>Alternate</i>)
The South India Hosiery Manufacturers' Association, Tirupur	SHRI M. TYAGRAJAN SHRI R. BALASARAVANAN (<i>Alternate</i>)
The Synthetic and Rayon Textiles Export Promotion Council, New Delhi	SHRI ANIL RAJVANSHI SHRI BHADRESH M. DHODIA (<i>Alternate</i>)
Tirupur Exporters Association, Tirupur	SHRI T. R. VIJAYKUMAR SHRI S. SHAKTIVEL (<i>Alternate</i>)
Veermata Jijabai Technological Institute, Mumbai	DR SHASHIKANT BORKAR DR ARVIND BHONGADE (<i>Alternate</i>)

<i>Organization</i>	<i>Representative(s)</i>
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BIS Directorate General	SHRI A. K. BERA, SCIENTIST 'F' AND HEAD (TEXTILES) [REPRESENTING DIRECTOR GENERAL (<i>Ex-officio</i>)]
<i>Member Secretary</i>	
SHRI DHARMBEER SCIENTIST 'C' (TEXTILES), BIS	

Bureau of Indian Standards

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Review of Indian Standards

Amendments are issued to standards as the need arises on the basis of comments. Standards are also reviewed periodically; a standard along with amendments is reaffirmed when such review indicates that no changes are needed; if the review indicates that changes are needed, it is taken up for revision. Users of Indian Standards should ascertain that they are in possession of the latest amendments or edition by referring to the latest issue of 'BIS Catalogue' and 'Standards: Monthly Additions'.

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Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

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